REMARKS

Reconsideration of the Office action mailed on June 16, 2004 in connection with the above-identified patent application is requested in view of the foregoing amendments and the following remarks.

Claim Rejections – 35 USC §103

The Examiner rejected claims 9, 26 and 27 under 35 U.S.C. §103(a) as being unpatentable over Lee (U.S. Patent No. 5,184,534) in view of Yoneda (U.S. Patent No. 4,117,752). That rejection is traversed. Nevertheless, claims 26 and 27 have been cancelled without prejudice in order to focus the claims on the subject matter applicant desires to protect by this application, so the rejection of claims 26 and 27 is moot. There remains the rejection of claim 9.

In order to conclude that applicant's claim 9 is obvious in light of Lee and Yoneda, there must be a reasonable expectation that the resulting combination would work. MPEP 2142, 2143 & 2143.02. If there is no such expectation, then a conclusion of obviousness is improper. In the case at hand, there is no such reasonable expectation, and therefore, claim 9 is not obvious in light of Lee and Yoneda.

Lee discloses a miter saw with a main switch and a safety switch that must be activated to operate the saw. Yoneda discloses a band saw configured to detect when a person comes into contact with the blade. The saw includes a blade looped around a plurality of pulleys so that the blade moves when the pulleys spin. The saw includes an electromagnetic brake to decelerate the motor and an electromagnetic clamp brake to clamp the blade if a person touches the blade.

Differences between band saws and miter saws, however, preclude the application of Yoneda's detection system to a miter saw. For example, the detection system of Yoneda includes a "bearing 16 of electrically conducting materials rotatably mounted on a shaft 17." (Yoneda, column 2, lines 26-27.) That bearing contacts the side of the band blade to electrically couple the blade to an amplifier. (Yoneda, column 2, lines 27-29.) The blade stays in contact by rolling along the blade as the blade moves around various pulleys. In a miter saw, however, the blade is a circular blade that spins; it is not a band blade that moves around pulleys. That difference means that a roller bearing will not work for a miter saw because it cannot roll along the blade as the blade spins. Rather, a roller bearing would likely contact a spinning blade intermittently, and intermittent contact is unacceptable for a contact detection system because a person may touch the blade at any time. Thus, the detection system disclosed by Yoneda would not work in the miter saw disclosed by Lee.

Additionally, the two brakes disclosed in Yoneda are designed for a band saw, not a miter saw. One of those two brakes clamps the sides of the band blade and the other is an electromagnetic brake that grips a brake plate integral with a pulley. (Yoneda, column 2, lines 34-41.) In a miter saw, the blade is circular and spinning at a high speed, so it has a very different angular momentum than a band blade traveling around pulleys. That different angular momentum means that clamping the sides of the blade to stop the blade quick enough to mitigate an injury is questionable. There is also no brake plate in a miter saw for an electromagnetic brake to clamp. That would have to be added in some undisclosed way. There simply is no teaching in the cited references as to how to incorporate the brakes disclosed by Yoneda in a miter saw.

Perhaps most importantly, adding the detection and brake systems of Yoneda to the miter saw of Lee, if it could be done, would make the resulting saw unsafe. Stopping the blade in a miter saw as disclosed by Lee would cause the blade to move down into the work zone with a significant force because of the angular momentum of the blade. When the blade was stopped, the angular momentum of the spinning blade would transfer through the brake to the pivot arm of the miter saw. The pivot arm would then try to spin in the same direction as the blade due to the conservation of angular momentum, and that would urge the pivot arm down toward the work surface, not away from it, because that is the only movement the pivot arm can make that is in the same direction as the blade was spinning. The blade would move down into the work zone with significant force, potentially causing a more serious injury to a person. Thus, if one could add Yoneda's detection system and brakes to the miter saw disclosed in Lee, at best you would be trading one dangerous condition for another; you would not be making the saw safer. Because of these differences, there is no reasonable expectation that the combination of Lee and Yoneda would succeed.

It is also important to understand that the reasonable expectation of success must be "found in the prior art, not in applicant's disclosure." MPEP 2143 (quoting In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). There is nothing in the cited references to suggest that the combination of Lee and Yoneda would work. To the contrary, the structure of the devices disclosed in those references suggests that the combination would not work, as explained, and without such a suggestion from the prior art, a conclusion of obviousness is improper. Id.

There also must be some suggestion, teaching or motivation to add the detection device and brake of Yoneda to the miter saw of Lee in order to conclude that applicant's claim 9 is obvious in light of Lee and Yoneda. MPEP 2142. If there is no such suggestion, teaching or motivation, then a conclusion of obviousness is improper. In the case at hand, there is no such suggestion, teaching or motivation. This is another independent reason why claim 9 is not obvious in light of Lee and Yoneda.

Lee teaches away from the need to have a contact detection system and corresponding brake because Lee has its own safety system that is different from and an alternative to a contact detection system. Specifically, Lee discloses a hand switch on the handle of the saw and a second switch that is triggered by the blade guard when the guard is pivoted down into contact with a workpiece. The contact between the guard and workpiece causes the guard to move, and that movement trips a switch. If the guard does not trip the switch while the hand switch is depressed, then the blade will not spin. (Lee, column 3, lines 11-52.) Thus, the saw in Lee will only work when the blade guard is in place. Because the guard must always be in place, there is little or no chance a user will contact the blade and therefore there is no need for a contact detection system with an accompanying brake. In this manner, the disclosure of Lee teaches away from the combination suggested by the Examiner. At the very least, Lee fails to suggest or describe the need of adding a contact detection system and brake to a miter saw, and without such a suggestion, a conclusion of obviousness is improper.

The Examiner failed to identify any specific suggestion, teaching or motivation from the prior art to combine Lee and Yoneda. Instead, the Examiner simply said the combination was obvious "to enhance the safety of operation" of the miter saw

disclosed in Lee. However, the desire to make the miter saw disclosed in Lee safer cannot by itself be sufficient motivation to combine the references. If it were, then almost no safety improvement could be patented. Rather, there must be some express or implicit teaching, suggestion or motivation in the prior art to make the specifically claimed combination. Expressed differently, it is not the desire to make something better but the solution that must be suggested or taught, and that solution is simply not found in the cited references.

It is only by looking at applicant's disclosure that one learns to incorporate a contact detection system and brake mechanism in a miter saw. But in an obviousness analysis, one must review the prior art without the benefit of applicant's disclosure. One cannot use the teaching of applicant's disclosure to suggest the modification to the prior art. The law is "clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (citations omitted). Additionally, a suggestion, teaching or motivation to combine or modify references "must be clear and particular." Id. (citation omitted). There is no clear and particular suggestion, teaching or motivation to combine the cited references to arrive at applicant's claim 9, and therefore, the obviousness rejection should be withdrawn.

The fact that the above-discussed claims are non-obvious is also supported by objective indicia of non-obviousness. Every year in the United States there are tens of thousands of people severely injured with power saws according to the U.S. Consumer Product Safety Commission, National Electronic Injury Surveillance System, Directorate

for Epidemiology.[1] These are all severe injuries that require a visit to a hospital emergency room. About 10% of these injuries result in amputations. The number and severity of these injuries clearly shows there is a long felt need for safer saws. The fact that others have tried to solve this problem is evidenced by the Lee and Yoneda patents cited by the Examiner. However, the continued high number of severe injuries shows that those attempts have failed. Fortunately, saws constructed as required by applicant's currently pending claims have the potential to significantly reduce the severity of these injuries. The long felt need for safer saws and the failure of others to satisfy that need supports the conclusion that applicant's claims are non-obvious. (See the declaration of inventor Stephen F. Gass, ¶5, submitted concurrently.)

Additionally, the technology which is the basis for saws constructed as required by applicant's currently pending claims has been recognized as new and innovative by various entities associated with the woodworking industry, as shown by the following awards (See Gass Decl. ¶6):

- Chairman's Commendation. The U.S. Consumer Product Safety Commission awarded the technology a Chairman's Commendation for significant contributions to product safety. That award was reported nationally on CNN Headline News.

- Challenger's Award. At an International Woodworking Fair in Atlanta, Georgia, the technology won the Challenger's Award, which is the woodworking industry's highest honor. It recognizes the most innovative and technically advanced improvements to woodworking equipment.

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[1] These statistics are publicly available from the U.S. Consumer Product Safety Commission at www.cpsc.gov.

- Popular Science – One of the 100 Best New Innovations. The magazine *Popular Science* identified the technology as one of the 100 best new innovations of 2002.

- Workbench Magazine – One of the Top 10 Tools for 2003. *Workbench* magazine included saws incorporating the technology on its list of the top 10 innovative tools for 2003.

- Woodwork Institute of California Endorsement. The Woodwork Institute of California has endorsed the technology, stating:

> As a Trade Association in the construction industry (representing over 250 manufacturers of architectural millwork with an excess of 4,000 employees, all of whom use saws of one type or another) we find your SawStop technology and its potential of eliminating or reducing worker injury of extreme significance. Generally, we would not endorse a commercial product; however the potential benefit to our members and their employees of implementing the SawStop technology on the tools used within our industry overrides such.

- Editor's Choice Award, Tools of the Trade. The magazine *Tools of the Trade* awarded the technology its 2001 Editor's Choice Award in recognition of its significance.

The technology that is the basis for applicant's currently pending claims also has been the subject of extensive media coverage, including national coverage by CNN Headline News, by the television program NEXT@CNN, by the Associated Press, and by Paul Harvey on the ABC Radio Network. (See Gass Decl. ¶7.) Additionally, numerous magazines have published reports about the technology, and have referred to it as "revolutionary," "unique," and "ingenious." Id. The media's interest in the technology supports the conclusion that the technology is novel and noteworthy.

In summary, the lack of a reasonable expectation of success due to the differences between the devices disclosed in the cited references, the lack of a

teaching, suggestion or motivation to modify or combine the cited references, and objective indicia of non-obviousness all support the conclusion that the above-discussed claims are not obvious.

The Examiner also rejected claims 1-3, 10, 11, 20, 28 and 29 under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Yoneda and in further view of Terauchi (U.S. Patent No. 4,512,224); and he rejected claims 4-7, 12 and 13 over Lee in view of Yoneda and Terauchi and in further view of Lokey (U.S. Patent No. 3,785,230). Those rejections are traversed, but all those claims have been cancelled without prejudice in order to focus the claims on the subject matter applicant desires to protect by this application, so those rejections are moot.

Double Patenting

The Examiner made several double patenting rejections, each of which is addressed below. References to claims from co-pending applications in the following discussion refer to claims as amended.

The Examiner provisionally rejected claims 1, 2, 26, 28 and 29 under the judicially created doctrine of obviousness-type double patenting in light of claim 5 from co-pending application number 10/052,273 and claim 6 from co-pending application number 10/052,806. Those rejections are traversed, but are now moot because those claims have been cancelled without prejudice.

The Examiner also provisionally rejected claims 1-3, 9-11, 20 and 26-29 under the judicially created doctrine of obviousness-type double patenting in light of claim 5 from co-pending application number 10/052,273 in view of Terauchi. Those rejections

are traversed. Nevertheless, as stated, all of those claims have been cancelled without prejudice, except claim 9, so the rejection is moot as to those claims.

The double patenting rejection should be withdrawn as to claim 9 because claim 5 from the co-pending application fails to teach or suggest either a detection system adapted to detect contact between the blade and a person or a brake mechanism adapted to stop rotation of the blade upon detection by the detection system of contact between the blade and the person, both of which are required by claim 9. Rather, claim 5 from the co-pending application recites a detection system configured to detect a dangerous condition without specifying what that dangerous condition is, and it recites a reaction system configured to urge a pivot arm away from a base assembly.

Moreover, the Terauchi reference should not be considered because it is non analogous art and therefore outside the proper scope and content of the art. MPEP §2141.01(a). Terauchi is non-analogous art because it is outside the field of applicant's endeavor and because it is not reasonably pertinent to the particular problem addressed by the pending claims, namely, detecting contact between a person and a blade and then stopping the blade from spinning when the dangerous condition is detected. MPEP §2141.01(a). Thus, Terauchi should not be considered in an obviousness analysis of the currently pending claims. Nevertheless, even if Terauchi is considered, it still fails to show or suggest a reaction system configured with a brake mechanism adapted to stop rotation of the blade upon detection by the detection system of contact between the blade and the person. Instead, Terauchi shows a slitter machine to cut cloth rolled onto a tube, and the blade may move back and/or stop if the blade contacts a conductive rod

in such a manner that a current may pass from the blade through the rod. That is very different from detecting contact between a person and blade and then triggering a brake mechanism upon detection of that contact. Therefore, this double patenting issue should be withdrawn.

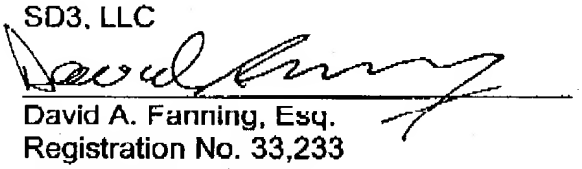
New Claim

Applicant is adding new claim 30, which includes a means-plus-function limitation. That claim distinguishes the cited references and should be allowable.

For the reasons given above, applicant believes the application is in a condition for allowance and applicant requests that it proceed to issuance. Please call the undersigned with any questions.

Respectfully submitted,

SD3, LLC



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Date: October 12, 2004

David A. Fanning